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(54) Title: SINGLE-DOMAIN ANTIGEN-BINDING ANTIBODY FRAGMENTS DERIVED FROM LLAMA ANTIBODIES

(57) Abstract: A phage display library of variable heavy domain (V<sub>H</sub>H or VH) fragments (sdAb fragments) derived from the antibody repertoire of a non-immunized llama is disclosed. The sdAb fragments of the library are characterized by the absence of cysteine residues in complementarity determining regions (CDRs) and a very low presence of residues of glutamic acid, arginine and glycine at positions 44, 45 and 47 respectively, of the VL interface of the variable heavy domain V<sub>H</sub>H. The large size of the library (in the order of 10<sup>9</sup>) makes it a source of antigen-binding fragments having high affinity to almost any antigen of interest. The library is preferably generated using a modified fd-tet phage growing in plaques in the absence of a tetracycline.

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